REMARKS

Prior to examination on the merits, applicants respectfully request entry and consideration of the above amendments and newly submitted claims. Applicants' newly submitted claims 48-178 are supported by the specification and accordingly, do not constitute new matter.

The subject matter of claim 48 is supported throughout the specification and specifically at the summary of the invention page 2 where it is disclosed that various monomers are delivered to multiple reaction sites on a single substrate where they are reacted in parallel; at page 3 lines 1-16 where it is disclosed that additional monomers are coupled to a first group of monomers and that the process is repeated until a diverse set of polymers of desired sequence and length is formed on the substrate; at page 3 line 39 to page 4 line 4 where it is disclosed that dimers, trimers and larger polymers of controlled length and monomer sequence are prepared by repeating steps of adding different monomers to a substrate; at page 13 line 38 to page 14 line 10 which describes methods of forming arrays using a dispenser to move from region to region and depositing only as much monomer as necessary; at page 15 lines 13-14 which describe coupling as referring to the addition of a monomer in a polymer; and at page 25 lines 6-23 which disclose dispensing droplets of monomers by moving over a first region, dispensing a droplet, moving to a second region, dispensing a droplet, and so on until selected regions have received a monomer, and then dispensing a second monomer in the same manner, with the monomers reacting on contact with the reaction regions.

Further support is found at page 25 line 8 to page 28 line 16 which describes locating a dispenser containing a solution comprising a monomer a distance away from a surface of a support; dispensing a droplet of 5 nanoliters or less from the dispenser with the droplet contacting the surface at a localized area smaller than 1 cm^2 (page 10 line 9); allowing the

compound to attach directly or indirectly to the surface of the support at the localized area; and repeating the steps until an array of at least 10 different polymers at different localized areas is formed (page 24 line 20). Support for the dependent claims is provided at least at the citations to follow:

Claim	Subject Matter	Citation
49.	Compound is dissolved in the solution	p. 14 l. 3
50.	Compound is in the form of a pellet	p. 30 l. 9
51.	Cover plate	P. 34 l. 19
52.	Distance away is between about 5 microns and about 50 microns	p. 27 l. 16
53.	Distance away is about 10 microns	p. 27 l. 18
54.	Droplet fits within a region having a diameter of less than about 300 microns	p. 28 l. 13-14
55.	Monomer comprises a nucleotide or an amino acid	p. 6 l.33 to p.7 l. 31
56.	Polymer comprises a nucleic acid, oligonucleotide, polynucleotide, peptide, or polypeptide	p. 6 l. 2 to p. 9 l. 16; p.4 l.5-7.
57.	Polymer comprises at least 2 monomers	p. 24 l. 23-26
58.	Polymer comprises greater than 100 monomers	p. 24 l. 23-26
59.	Polymer comprises 2, 3, 4, 5, 6, 10, 15, 20, 30, 40, 50, 75, or 100 monomers	p. 24 l. 23-26
60.	Support is selected from the group consisting of substantially flat substrates, substrates having raised or depressed regions, beads, gels, sheets, particles, strands, precipitates, spheres, containers, capillaries, pads, slices, films, plates, and slides	p. 9 l. 18-28; p. 14 l. 15-26.
61.	Support comprises a gel.	p. 9 l. 18-28; p. 14 l. 15-26.
62.	Support comprises biological materials, nonbiological materials, organic materials or inorganic materials	p. 14 l. 15-16
63.	Support is a disc, square, or circle	p. 14 l. 20
64.	Localized area is smaller than $1mm^2$	p. 10 l. 1-14
65.	Localized area is smaller than $0.5mm^2$	p. 10 l. 1-14
66.	Localized area is smaller than 10,000 μm^2	p. 10 l. 1-14
67.	Localized area is smaller than 100 μm^2	p. 10 l. 1-14
68.	Array of at least 100 different reagents at different localized areas is formed	p. 10 l. 16-31 p. 24 l. 19-26

69. Array of at least 1000 different reagents at different localized areas is formed p. 24 l. 19-26

70. Array of at least 10,000 different reagents at different localized areas is formed p. 24 l. 19-26

71. Array of at least 100,000 different reagents at different localized areas is formed p. 24 l. 19-26

72. Array of at least 1,000,000 different reagents at different localized areas is formed p. 24 l. 19-26

73. Array of at least 1000 different compounds occupying localized areas within 1 cm^2 of the surface of the support. p. 25 l. 33-35

74. Support comprises glass, derivatized glass, pyrex, quartz, a polymeric material, polystyrene, polycarbonate, silicon or a gel. p. 20 l. 16-20 p. 38 l. 40-42 p. 9 l. 18-28; p. 14 l. 15-26.

75. Solution of the compound comprises an aqueous solution p. 4 l. 17-18

76. Dispenser comprises a plurality of dispensing units, wherein the plurality of dispensing units is in fluid communication with a solution comprising a compound and wherein step(b) comprises dispensing a droplet of 5 nl or less from one or more of the plurality of dispensing units. p. 14 l. 7-10 Figure 12

77. Support bears at least two reference points for positioning the dispenser over at least one of said localized areas for release of said droplet. p. 25 l. 36-42

78. Reference points comprise global reference points for positioning the dispenser over a local region of the surface of the support, and local reference points within the local region for positioning the dispenser over a localized area within the local region. p. 26 l. 9-27

79. Dispenser further comprises a camera for identifying the reference points p. 26 l. 28-34

80. Step of sensing changes in capacitance to identify the reference points p. 26 l. 34-41

81. Step of sensing changes in light intensity to identify the reference points p. 26 l. 34-41

82. Step of sensing changes in resistivity to identify the reference points p. 26 l. 34-41

83. Step of sensing changes in optical properties to identify the reference points p. 26 l. 34-41

84. Step of sensing changes in magnetic properties to identify

	the reference points	p. 26 l. 34-41
85.	Plurality of dispensing units comprises a manifold of delivery lines	p. 14 l. 8-10 Figure 12
86.	Plurality of dispensing units comprises an array of pipettes	p. 14 l. 8-10 Figure 12
87.	Plurality of dispensing units comprises a series of tubes	p. 14 l. 8-10 Figure 12
88.	Plurality of dispensing units includes control valves	p. 23 l. 14-15
89.	Monomer is bound indirectly to the surface of the support via a linker molecule	p. 14 l. 34-39
90.	Dispenser is moved relative to the support	p. 14 l. 3-5
91.	Support is moved relative to the dispenser	p. 24 l. 9-11
92.	One or more localized areas are spaced less than about 3 mm apart	p. 25 l. 24-26
93.	One or more localized areas are spaced less than between about 5 microns and 100 microns apart	p. 25 l. 24-26
94.	One or more localized areas has an angular relation between each localized area of about 1 degree	p. 25 l. 27-29
95.	One or more localized areas has an angular relation between each localized area of about 0.1 degree	p. 25 l. 27-29
96.	Support comprises at least about 100 localized areas	p. 25 l. 29-31
97.	Support comprises at least about 1000 localized areas	p. 25 l. 29-31
98.	Support comprises at least about 10,000 localized areas	p. 25 l. 29-31
99.	Support comprises at least about 1000 localized areas per cm^2 of surface of substrate	p. 25 l. 33-35
100.	Support comprises at least about 10,000 localized areas per cm^2 of surface of substrate	p. 25 l. 33-35
101.	Support comprises a strand including one or more of glass, derivatized glass, quartz or a polymeric material	p. 20 l. 16-20 p. 38 l. 40-42 p. 9 l. 18-28 p. 14 l. 15-26
102.	Dispenser comprises a dispenser tip and a sheath encircling the dispenser tip and rigidly extending a fixed distance beyond the dispenser tip	p. 27 l. 29-36
103.	Surface of the support comprises a hydrophilic substance	p. 13 l. 30-32
104.	Surface of the support comprises a hydrophobic substance	p. 13 l. 30-32
105.	Surface of the support comprises a hydrophilic or hydrophobic substance	p. 13 l. 30-32
106.	Surface of the support comprises a hydrophilic group	p. 31 l. 29 to p. 33 l. 45
107.	Surface of the support comprises a hydrophobic group	p. 31 l. 29 to p. 33 l. 45
108.	Surface of the support comprises a hydrophilic or hydrophobic group	p. 31 l. 29 to p. 33 l. 45
109.	Surface of the support comprises a photoresist	p. 19 l. 32-35

110.	Surface of the support is cleaned prior to the step of dispensing a droplet	p. 20 l. 44-45
111.	Dispenser comprises a pipette	p. 14 l. 5-10
112.	Dispenser comprises a capillary tube	p. 28 l. 14
113.	Dispenser comprises an electrophoretic pump	p. 29 l. 1-16
114.	Dispenser comprises an osmotic pump	p. 29 l. 41 to p. 30 l. 6
115.	Dispenser comprises a cell sorter	p. 29 l. 41 to p. 30 l. 6

Claims 113 through 178 include subject matter the support for which is already provided above. Applicants respectfully request entry and consideration of the amendments and newly submitted claims.

Respectfully submitted,

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